

Unit Planning Guide: Grade 2 Unit 2 of 8

Unit Title: Problem solving with addition/subtraction	Pacing (Duration of Unit): 8 Weeks
Grade: 2	Buffer Day(s): 2

Desired Results

Transfer Goals (Priority practice standards in bold)

Students will be able to independently use their learning to:

- MP.1. Make sense of problems and persevere in solving them.
- MP.2. **Reason abstractly and quantitatively.**
- MP.3. Construct viable arguments and critique the reasoning of others.
- MP.4. **Model with mathematics.**
- MP.5. Use appropriate tools strategically.**
- MP.6. Attend to precision.
- MP.7. **Look for and make use of structure.**
- MP.8. Look for and express regularity in repeated reasoning.

Established Goals (2011 MA Curriculum Frameworks Standards Incorporating the Common Core State Standards)

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Prerequisite Standards:

- 1.OA.6: Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use mental strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).
- 1.NBT.2: Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:
 - 1.NBT.2a: 10 can be thought of as a bundle of ten ones—called a “ten.”
 - 1.NBT.2b: The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.
 - 1.NBT.2c: The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).
- 1.NBT.5: Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.

Standards (Priority Standards in bold):

- **2.NBT.5 Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.**
- **2.NBT.6 Add up to four two-digit numbers using strategies based on place value and properties of operations.**
- **2.NBT.7 Add and subtract within 1000, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method. Understand that in adding or subtracting three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones; and sometimes it is necessary to compose or decompose tens or hundreds.**
- **2.NBT.8 Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.**
- **2.NBT.9 Explain why addition and subtraction strategies work, using place value and the properties of operations.**
- 2.OA.2: Fluently add and subtract within 20 using mental strategies. By end of grade 2, know from memory all sums of two one-digit numbers.
- 2.OA.MA.2a: By the end of grade 2, know from memory related subtraction facts of sums of two one-digit numbers.

WIDA for English Language Learners

Standard 1: ELLs communicate for Social and Instructional purposes within the school setting

Standard 3: ELLs communicate information, ideas and concepts necessary for academic success in the content area of Mathematics

In the lesson planning stage, teachers will need to differentiate lessons for ELLs. In order to accomplish this they will need: 1.) this curriculum map, 2.) a list of their ELLs and their proficiency levels, and 3.) appropriate language function expectations and scaffolds or supports.

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Meaning (*Mostly assessed through Performance Tasks/Assessments)

<p>Big Ideas: (Statements and concepts written in teacher friendly language which reflects the important [but not obvious] generalizations we want students to be able to arrive at. These are used by the teacher to focus daily instruction.)</p> <ul style="list-style-type: none"> Knowing addition and subtraction strategies are important for solving everyday problems. It is sometimes necessary to compose or decompose (regroup or rename) numbers in order to add and subtract. 	<p>Essential Questions: (Questions which frame ongoing and important inquiries about the big ideas. They are written for students and used in daily instruction to help engage students in meaningful thinking.)</p> <ul style="list-style-type: none"> What does place value have to do with adding and subtracting? What does “0” represent in any number? How can changing the position of a number’s digits change the value of the number? Why do we compose and decompose numbers?
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Acquisition (*Mostly assessed through traditional summative assessments)

<p>Knowledge: Key basic concepts, facts, and key terms (written in phrases) students should be able to recall independently.</p> <p>Students will know ...</p> <ul style="list-style-type: none"> Computation strategies for addition and subtraction Strategies to compose or decompose tens and hundreds to add and subtract three digit numbers Numbers can be represented with concrete models <p>Key Academic Vocabulary</p> <ul style="list-style-type: none"> renaming regrouping addend sum minuend subtrahend difference 	<p>Skills: The discrete skills and process students should be able to use independently.</p> <p>Students will be skilled at:</p> <ul style="list-style-type: none"> Modeling adding to, taking from, putting together, taking apart, and comparing numbers with unknowns (Applying) Adding and subtracting within 20 using mental strategies (Remembering) Explaining their reasoning when computing (Understanding) Using a variety of mental strategies to add and subtract (Apply) Adding and subtracting fluently within 100. (Remember) Adding up to four two-digit numbers. (Remember) Mentally adding or subtracting 10 or 100 to any number up to 900. (Remember) Explaining why addition and subtraction strategies work using place value and the properties of operations. (Evaluate)
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Resource Suggestions:

A Place for Zero: A Math Adventure by Angelina Sparagna Loprest